

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

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Ex parte MANFRED AUER and HUBERT GSTACH

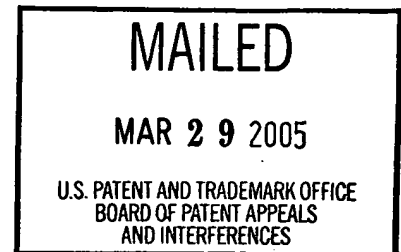
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Appeal No. 2004-2079  
Application No. 09/754,958<sup>1</sup>

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ON BRIEF

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Before ELLIS, ADAMS, and GRIMES, Administrative Patent Judges.

ADAMS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the  
examiner's final rejection of claims 17-21<sup>2</sup>, which are all the claims pending in the  
application.

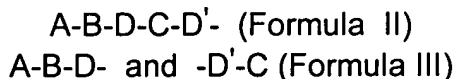
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<sup>1</sup> The instant application is a divisional of Application No. 09/217,795, now United States Patent No. 6,207,831 ('831). According to appellants (Brief, page 6), compounds of Formula I - the "C portion" of the compounds of the claims now on appeal - were allowed in the '831 patent.

<sup>2</sup> According to the examiner (Answer, page 2), the After Final amendment filed June 10, 2003 "places the case in better form for appeal ... and thus has now been entered." In this regard, we note that appellants' request (Brief, page 8), "that the new claims be entered," was granted by the examiner.

Claim 17 is illustrative of the subject matter on appeal and is reproduced below:

17. Compounds comprising structure of formula II or of formula III

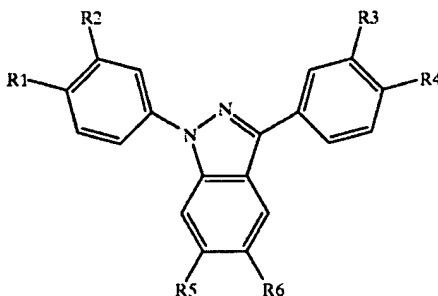


wherein

A is selected from the group consisting of functionalized polystyrene based resins, polyacrylamide based polymers, polystyrene/polydimethylacrylamide composites, PEGA resins, polystyrene-polyoxyethylene based supports, polystyrene/divinylbenzene-PEG graft copolymers, PEG-polystyrene graft polymeric supports, glass surfaces, functionalized surfaces, materials grafted with functionalized surfaces, and polyethylenglycol;

B is a linker allowing cleavage of fluorescent conjugates of formula II or of formula-III for liberation of the D and C containing fragments;

C is a compound selected from formula (I)



(I)

wherein

one of the radicals R<sup>1</sup> or R<sup>2</sup> and one of the radicals R<sup>3</sup> or R<sup>4</sup> is hydrogen and the other is independently -COOH, -COOR<sup>7</sup>, -CONH<sub>2</sub>, -CONH(CH<sub>2</sub>)<sub>n</sub>OH, -CONR<sup>8</sup>R<sup>9</sup>, -CH<sub>2</sub>OH, -CH<sub>2</sub>NH<sub>2</sub>, -NO<sub>2</sub>, NR<sup>10</sup>R<sup>11</sup>, NHCOR<sup>12</sup>, Cl, Br, F, -CF<sub>3</sub>, -N=C=O, -N=C=S, -SO<sub>3</sub>H, -SO<sub>2</sub>NH(CH<sub>2</sub>)<sub>n</sub>NH<sub>2</sub>, (C<sub>1</sub>-C<sub>4</sub>)alkyl, (C<sub>1</sub>-C<sub>16</sub>)-alkyl substituted at the terminal carbon with -COOH, -COOR<sup>7</sup>, -CONH<sub>2</sub>, -CONR<sup>8</sup>R<sup>9</sup>, -CONH(CH<sub>2</sub>)<sub>n</sub>OH, -CH<sub>2</sub>OH, -CH<sub>2</sub>NH<sub>2</sub>, -N=C=O, -N=C=S, -SO<sub>3</sub>H, -SO<sub>2</sub>NH(CH<sub>2</sub>)<sub>n</sub>NH<sub>2</sub>, -CONH(CH<sub>2</sub>)<sub>n</sub>NH<sub>2</sub>, and the -NH<sub>2</sub> group could also be substituted by (C<sub>1</sub>-C<sub>4</sub>) alkyl or a commonly used amino protecting group;  
and one of the radicals R<sup>5</sup> or R<sup>6</sup> is hydrogen and the other is

hydrogen, halogen,  $-\text{NO}_2$ ,  $-\text{NR}^{10}\text{R}^{11}$ ,  $-\text{NHCOR}^{12}$ ,  $(\text{C}_1\text{-C}_4)$  alkyl,  $(\text{C}_1\text{-C}_{16})$ -alkyl substituted at the terminal carbon with  $-\text{COOH}$ ,  $-\text{COOR}^7$ ,  $-\text{CONH}_2$ ,  $-\text{CONR}^8\text{R}^9$ ,  $-\text{CONH}(\text{CH}_2)_n\text{OH}$ ,  $-\text{CH}_2\text{OH}$ ,  $-\text{CH}_2\text{NH}_2$ ,  $-\text{N}=\text{C}=\text{O}$ ,  $-\text{N}=\text{C}=\text{S}$ ,  $-\text{SO}_3\text{H}$ ,  $-\text{SO}_2\text{NH}(\text{CH}_2)_n\text{NH}$ ,  $-\text{CONH}(\text{CH}_2)_n\text{NH}_2$  wherein and [sic] the  $-\text{NH}_2$  group could also be substituted by  $(\text{C}_1\text{-C}_4)$  alkyl or a commonly used amino protecting group;

n is 2-8;

with the proviso that only one of  $\text{R}^1\text{-R}^6$  is nitro;

$\text{R}^7$  is a commonly used carboxyl protecting or carboxyl activating group;

$\text{R}^8$  or  $\text{R}^9$  is hydrogen and the other is lower alkyl  $(\text{C}_1\text{-C}_4)$ , phenyl, benzyl, or  $\text{R}^8$  and  $\text{R}^9$  are part of a 5 or 6 membered ring;

$\text{R}^{10}$  and  $\text{R}^{11}$  are independently hydrogen or  $(\text{C}_1\text{-C}_4)$ alkyl; and

$\text{R}^{12}$  is  $(\text{C}_1\text{-C}_{10})$ alkyl, [or] phenyl, which both can be substituted by  $(\text{C}_1\text{-C}_4)$  alkyl, protected amino group or halogen; and

D and D' are independently a bond or a spacer selected from  $\alpha,\omega$ -diamino-alkanes, diaminocyclohexyl, bis-(aminomethyl)-substituted phenyl,  $\alpha$ -amino- $\omega$ -hydroxy-alkanes, alkylamines, cyclic alkylamines or cyclic alkyldiamines or amino acids without or with additional functionality in the side chain.

No prior art is relied upon by the examiner.

#### GROUND OF REJECTION

Claims 17, 18, 20 and 21 stand rejected under 35 U.S.C. § 112, first paragraph, as being based on a specification that fails to adequately describe the claimed invention.

Claims 17, 18, 20 and 21 stand rejected under 35 U.S.C. § 112, first paragraph, as being based on an insufficient disclosure to enable the scope of the claimed invention.

Claims 17-21 stand rejected under 35 U.S.C. § 112, second paragraph as indefinite.

We affirm the rejection under 35 U.S.C. § 112, second paragraph. Having disposed of all claims on appeal, we do not reach the merits of the rejections under 35 U.S.C. § 112, first paragraph.

### DISCUSSION

#### THE REJECTION UNDER 35 U.S.C. § 112, SECOND PARAGRAPH:

According to appellants (Brief, page 2), “[t]he claims on appeal may be grouped as follows: 1) claims 12, 15 and 16 [now claims 17, 20 and 21]; 2) claim 13 [now claim 18]; and 3) claim 14 [now claim 19].” Accordingly, claims 18 and 19 stand or fall alone. Claims 20 and 21 will stand or fall together with claim 17. In re Young, 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991).

The legal standard for indefiniteness under 35 U.S.C § 112, second paragraph, is whether a claim reasonably apprises those of skill in the art of its scope. See, Amgen Inc. v. Chugai Pharmaceutical Co., Ltd. 927 F.2d 1200, 1217, 18 USPQ2d 1016, 1030 (Fed. Cir. 1991). For the following reasons, it is our opinion that the claims do not comply with this standard.

#### Claim 17

##### Formulas:

According to the examiner claim 17 is indefinite in the recitation of the phrase “compounds comprising structure of formula II or of formula III,” wherein the claim defines Formula II as “A-B-D-C-D’-” and Formula III as “A-B-D- and -D’-C.” Answer, bridging paragraph, pages 9-10. The examiner appreciates

(Answer, page 9) that “alternative expressions are permitted if they present no uncertainty or ambiguity with respect to the question of scope or clarity of the claims.” See Manual of Patent Examining Procedure (MPEP) § 2173.05 (h). However, on this record, the examiner finds (*id.*), the use of the term “or” in reference to the structure of Formula II or Formula III, coupled with the use of the term “and” in reference to the recitation “A-B-D- and -D'-C,” confusing. According to appellants (Brief, page 8), the After Final Amendment filed June 10, 2003, mooted this issue. We disagree.

Claim 17 is drawn to compounds comprising structures of formula II or formula III. Claim 17 defines the structures of formula II and formula III as A-B-D-C-D', A-B-D-, and -D'-C. While far from being perfectly clear, one possible interpretation of claim 17 is that it is drawn to compounds comprising the structures A-B-D-C-D', A-B-D-, or -D'-C.

In this regard, we direct attention to the compound of claim 17 comprising the structure “A-B-D-.” As defined by claim 17, moiety “A” is a resin, polymer, composite, support or surface. Stated differently, moiety “A” is a solid support. See e.g., Brief, page 3<sup>3</sup>. As defined by claim 17, moiety “D” is “a bond....” So far, as defined by claim 17, the compound comprising the structure “A-B-D-” has a solid support on one end and a bond on the other end.

Claim 17 defines the middle of this compound, moiety “B”, as “a linker allowing cleavage of fluorescent conjugates of formula II or of formula-III for

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<sup>3</sup> Citing two references, appellants assert (Brief, page 3), “[s]uch solid support [sic] and specific linking sites for linking chemical compounds to such solid support [sic] are known....”

liberation of the D and C containing fragments," emphasis added. Moiety "C," however, is not part of the compound comprising "A-B-D-". As appellants explain (Brief, page 6), "'C' makes the claimed compounds fluorescent." Accordingly, without moiety "C" the claimed compounds are not fluorescent. Moiety "D", a bond, is not fluorescent, thus it is unclear how moiety "B" allows cleavage of a fluorescent conjugate, as set forth in claim 17.

Nevertheless, as it relates to a compound comprising the structure "A-B-D-", moiety "B" is a linker allowing cleavage for liberation of D - a bond. Accordingly, based on this interpretation of claim 17, the claim comprises a solid support attached to a linker that allows cleavage for liberation of a bond. This appears to be inconsistent with the statement in the specification (page 1, first paragraph),

The present invention relates to the field of ultra high-throughput screening on the solid support and in homogeneous solution by a novel generic labeling technology. The new labeling technology is based on new chemically stable fluorophores, which possess reactive chemical functionalities for attachment to a solid support and subsequent start of combinatorial synthesis of compound libraries.

There is no requirement in claim 17 that compounds comprising the structure "A-B-D-" contain a fluorophore. While other interpretations of the claim may be possible, they would only serve to emphasize that the claim is indefinite. For example, as discussed infra, the structures recited in claim 19 ("A-B-C-D'-E," "A-B-E-C," "A-B-E-D'-C," and "A-B-D-E-C") open the scope of claim 17 to read on internal modifications to the structures of formula II and formula III. As set forth,

infra, appellants have provided no precedent to support such a modification of the structures set forth in claim 17.

"Open-ended" recitations:

In this regard, we note that the recitation of formula II and formula III as they appear in claim 17 are inconsistent with the description of formula II and formula III as they appear on pages 7 and 8 of appellants' specification. According to appellants' specification (page 7) formula II is defined as "A-B-D-C-D'-E," not A-B-D-C-D'-" as it appears in claim 17. Further, appellants' specification (page 8) defines formula III as "A-B-D-E-D'-C," not "A-B-D- and -D'-C" as it appears in claim 17. The invention of claim 17 is drawn to a compound comprising structure of formula II or of formula III, not fragments of the compounds comprising these structures. In this regard, we recognize the examiner's assertion (Answer, page 10) that it is "unclear what is meant by the open-ended nature of" formulas II and III. Specifically, the examiner directs attention to the dangling "-" as it appears after moiety "D'" and moiety "D" in formulas II and III, and before moiety "D" in formula III.

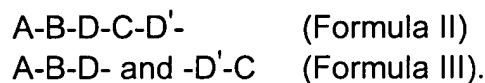
According to appellants (Brief, page 7), "[t]he dashes on D and D' in the formulas are points of attachment. This is not confusing to one in the chemical arts." To the contrary, on this record, these "dangling" dashes are quite confusing for it is unclear from the claim, to what moieties "D" and "D'" attach. See Answer, page 19, "it is simply unclear as to what these so-called "points of attachment" are attaching." According to formula II and III in appellants'

specification, moiety D and moiety D' attach to moiety "E." Moiety E, however, is not required in claim 17.

For the foregoing reasons, we affirm the rejection of claim 17 under 35 U.S.C. § 112, second paragraph as indefinite. As set forth above, claims 20 and 21 fall together with claim 17.

#### Claim 19

Further, we direct attention to claim 19, which depends from claim 17 and makes reference to moiety "E". We note that claim 19 refers to structures having the formulas "A-B-C-D'-E," "A-B-E-C," "A-B-E-D'-C," and "A-B-D-E-C." None of these structures conforms to the claimed structure of formulas II or III, which are

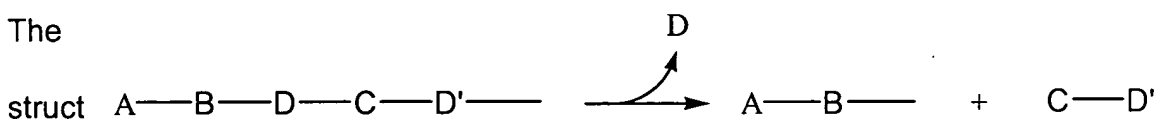


As the examiner explains (Answer, page 20), "the structures recited in claim 19 do not appear to fall within the limitations of claim 17."

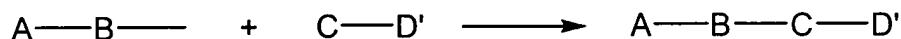
Initially, we agree with appellants' assertion (Brief, page 7), "a dependent claim can further limit an element recited in a prior claim." We also agree with appellants' assertion (*id.*), "a dependent claim can also add an element which has not been recited in a prior claim, as long as said claim is not limited by language such as 'consisting of'." We disagree, however, that either of these principles apply to the facts before us on this record. For clarity, we direct attention to the structure "A-B-C-D'-E" as it appears in appellants' claim 19. This structure is distinct from the structures presented in claim 17, from which claim 19 depends. This is not an instance where an additional moiety was added to



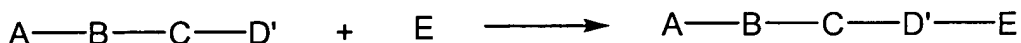
the end of one of the structures presented in claim 17. For example, an "E" moiety added to the end of the compound comprising the structure of formula II resulting in a compound having the structure – "A-B-D-C-D'-E". To the contrary, to arrive at the structure "A-B-C-D'-E" as it appears in appellants' claim 19, the structures presented in claim 17 would have to be modified. For example, using the structure of formula II as it appears in claim 17, the structure would first have to be split to remove moiety "D":



ure would then have to be rejoined to form a new structure excluding moiety "D":



Moiety "E" would then have to be added to the end of the structure:



Appellants have cited no authority, and we know of none, that would permit a dependent claim to modify the "comprising" language of the claim from which it depends in such a manner.

For the foregoing reasons, we affirm the rejection of claim 19 under 35 U.S.C. § 112, second paragraph as indefinite.

#### Claim 18

According to appellants (Brief, page 7), claim 18 "further limits moiety B to specific chemical entities. Therefore, any rejections based on B are deemed to

be moot.” Claim 18 depends from claim 17. Notwithstanding, that this claim limits the scope of the chemical entities encompassed by moiety “B” of this claim, claim 17, as discussed above, is indefinite for reasons other than the scope of moiety “B”. Accordingly, claim 18 is indefinite for the same reasons set forth above with regard to claim 17.

Accordingly, for the foregoing reasons, we affirm the rejection of claim 18 under 35 U.S.C. § 112, second paragraph as indefinite.

### Conclusion

Analyzing claims based on “speculation as to meaning of the terms employed and assumptions as to the scope of such claims” is legal error. In re Steele, 305 F.2d 859, 862, 134 USPQ 292, 295 (CCPA 1962). Accordingly, having found the claims to be indefinite we do not reach the merits of the rejections under 35 U.S.C. § 112, first paragraph, or the merits of the other rejections under 35 U.S.C. § 112, second paragraph, see Answer, pages 10-11, lettered paragraphs D, E and G.


### OTHER ISSUES

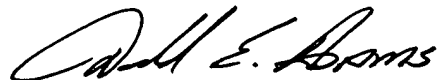
In the event of further prosecution, we encourage the examiner to consider whether the recitation of formulas II and III as they appear in claim 17 represents new matter with regard to the specifications’ disclosure (pages 7-8) of formulas II and III. In this regard, we direct the examiner’s attention to MPEP § 2163.06. In addition, we encourage the examiner to take a step back and

reconsider the claimed invention with regard to the relevant prior art to determine whether a claim 17, as discussed above, which is drawn to a compound comprising a solid support attached to a linker that allows cleavage for liberation of a bond is novel and unobvious under 35 U.S.C. § 102 and § 103.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

  
Joan Ellis  
Administrative Patent Judge

  
Donald E. Adams  
Administrative Patent Judge

  
Eric Grimes  
Administrative Patent Judge

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